# Genital ulcers in an immunocompromised man

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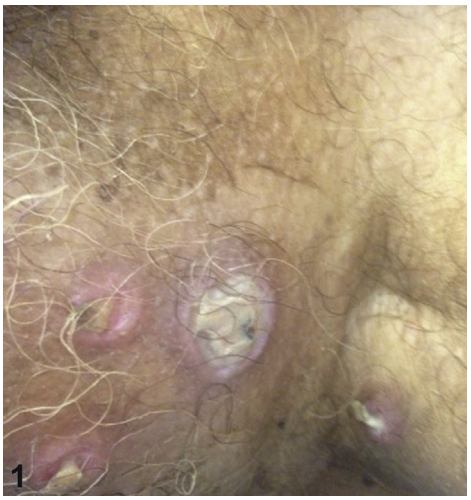


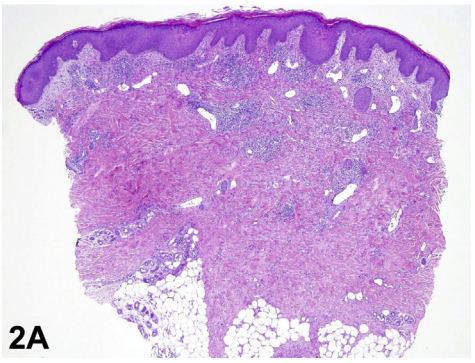


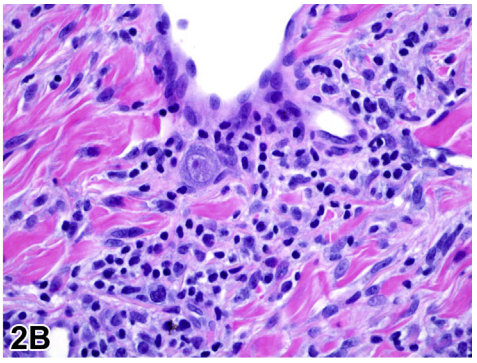


A 72-year-old man with a history of type 2 diabetes, renal transplant, long-term immunosuppression with prednisone and tacrolimus, and a recent diagnosis of posttransplant lymphoproliferative disorder, presented with a 2-week history of worsening headaches and blurry vision. Physical examination was notable for a left facial droop and 4 genital ulcerations: 2 on the left medial thigh and 2 on the left lateral scrotum. The ulcerations had well-defined pink raised borders and a thin yellow membrane overlying the base (Fig 1). Results of a punch biopsy are shown (Fig 2).

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**Question 1: What is the most likely diagnosis?**

**A.** Chancroid

**B.** Syphilis

**C.** Cytomegalovirus (CMV)

**D.** Behcet disease

**E.** Lymphogranuloma venereum (LGV)

**A.** Chancroid — Incorrect. *Haemophilus ducreyi* causes genital ulcers in both immunocompetent and immunocompromised hosts, but is associated with lymphadenopathy, not focal neurologic deficits.

**B.** Syphilis — Incorrect. *Treponema pallidum* causes genital ulcers and neurologic symptoms from primary and tertiary syphilis, respectively. Primary and tertiary syphilis do not occur concurrently and are typically separated by years. Given the patient's acute presentation with both neurologic and cutaneous, syphilis is less likely than CMV. Histopathology of primary syphilis typically shows acantholysis of the epidermis and lymphocytic infiltrate with numerous plasma cells. CMV inclusion bodies would not be present.

**C.** CMV — Correct. Cutaneous presentations of CMV in the immunocompromised individual include petechial, nodular, urticarial, vesiculobullous, and papulopustular eruptions, as well as mucosal ulcerations.[1] Of these presentations, genital ulcerations are the most common and well described in the immunosuppressed population.[1-3] Histopathology (Fig 2, *B*) shows a dermal cell with an enlarged nucleus containing a round, eosinophilic globule and granular cytoplasm. This inclusion body is characteristic of CMV infection.

**D.** Behcet disease — Incorrect. Behcet disease can cause genital aphthae and central nervous system (CNS) vasculitis but is not associated with immunosuppression. Generally, patients present with oral apthae, uveitis, or cutaneous vasculitis. The patient's ongoing treatment with prednisone and tacrolimus would have therapeutic activity against Behcet disease.

**E.** LGV — Incorrect. *Chlamydia trachomatis* manifesting as LGV is more common in HIV-infected individuals than renal transplant recipients. LGV is associated with local lymphadenopathy and not CNS disease.

**Question 2: What is the preferred treatment option for this disease?**

**A.** Intravenous (IV) acyclovir

**B.** Prednisone

**C.** Azithromycin

**D.** Benzathine penicillin G

**E.** IV ganciclovir

**A.** IV acyclovir — Incorrect. IV acyclovir is the preferred treatment for herpes simplex but has limited activity against CMV.

**B.** Prednisone — Incorrect. Prednisone is a reasonable treatment for ulcers caused by Behcet disease.

**C.** Azithromycin — Incorrect. Azithromycin is the first-line treatment for chancroid.

**D.** Benzathine penicillin G — Incorrect. Benzathine penicillin G is the preferred treatment for primary syphilis.

**E.** IV ganciclovir — Correct. Recommended management of CMV in the immunocompromised host is treatment with IV ganciclovir or oral valganciclovir.[4] As patients with previous CMV disease are at elevated risk for recurrence, subsequent prophylaxis with oral valganciclovir should continue for 1 to 3 months after clearance of infection.

**Question 3: What test is most likely to diagnose the etiology of the patient's CNS disease?**

**A.** Cerebrospinal fluid polymerase chain reaction (CSF PCR)

**B.** Brain magnetic resonance imaging (MRI)

**C.** Empiric treatment, no additional testing is necessary

**D.** Blood PCR

**E.** CSF culture

**A.** CSF PCR — Correct. CSF PCR is the most sensitive and specific test for CMV involving the CNS.[4,5]

**B.** Brain MRI — Incorrect. MRI is appropriate in the immunocompromised individual presenting with focal neurologic deficits and a history of posttransplant lymphoproliferative disorder, but it is less sensitive for diagnosing CNS CMV than CSF PCR.

**C.** Empiric treatment, no additional testing is necessary − Incorrect. Given the patient's CMV genital ulcers, he should receive treatment with IV ganciclovir or oral valganciclovir. This does not obviate the need for further workup for his neurologic symptoms.

**D.** Blood PCR − Incorrect. Patients are generally viremic before experiencing disseminated CMV disease, and blood PCR is often positive. This finding, however, is not specific for CNS infection.[5]

**E.** CSF culture − Incorrect. CMV culture is often highly sensitive and specific for detecting CMV in tissue specimens but is less sensitive in detecting CMV in the CSF.

**Abbreviations used:**

CMV: cytomegalovirus
CNS: central nervous system
CSF: cerebrospinal fluid
IV: intravenous
LGV: lymphogranuloma venereum
MRI: magnetic resonance imaging
PCR: polymerase chain reaction

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